

AMENDMENTS TO THE CLAIMS

The listing of claims will replace all prior versions and listings of claims in the application:

Listing of Claims:

1. **(Currently Amended)** A stent-catheter arrangement for placing a stent into a vessel, the stent-catheter arrangement comprising:

a catheter including ~~[[an]]~~a single expandable balloon having a first substantially cylindrical section expandable to engage an interior vessel wall, a second substantially cylindrical section expandable to engage the interior vessel wall, and a substantially cylindrical segment of reduced expandability in comparison with said first and second substantially cylindrical sections--~~--~~ said substantially cylindrical segment of reduced expandability being provided between said first and second substantially cylindrical sections, each of said first and said second substantially cylindrical sections being connected to said segment of reduced expandability by a tapered section configured to essentially prevent blood turbulence; and

a single, substantially uniformly cylindrical deformable stent disposed on said expandable balloon, said stent including a liquid impermeable cover, said stent extending over said substantially cylindrical segment of reduced expandability and said tapered sections, said stent terminating at portions of said first and second substantially cylindrical sections,

wherein said balloon is configured and arranged to expand said stent from the substantially uniformly cylindrical configuration to have a first substantially cylindrical fixing portion having an outer diameter associated with fixing said stent within the vessel, a first tapered portion connected to and extending inwardly and distally from said first substantially cylindrical fixing portion, a substantially cylindrical middle portion connected to and extending from said first tapering portion, said middle portion having a middle diameter smaller than said outer diameter, a second tapered portion connected to and extending outwardly and distally from said middle portion, and a second substantially cylindrical fixing portion, having said outer diameter, connected to and extending distally from said second tapered portion, said first and second tapered portions having predetermined lengths and angles and extending from said middle diameter to a first junction of said first fixing portion and said first tapered portion at said outer diameter and a second junction of said second fixing portion and said second tapered portion at said outer diameter, respectively, said first fixing portion extending along said vessel

proximally from said first junction and said second fixing portion extending along said vessel distally of said second junction,

wherein said substantially cylindrical portion has a smaller outer radial width than said first and second expanded fixing portions when said balloon is fully expanded so that said substantially cylindrical portion is radially spaced from the interior wall of the vessel, and

~~one or more segments wherein said substantially cylindrical segment of reduced expandability of said balloon being is~~ selectively stiffened to produce a balloon profile having said first and said second substantially cylindrical sections expandable to engage the interior vessel wall, and said substantially cylindrical segment of reduced expandability and said tapered sections.

2. **(Previously Presented)** The stent-catheter arrangement according to claim 1, wherein said cover is a foil or a coating.

3. **(Previously Presented)** The stent-catheter arrangement according to claim 2, wherein said foil or said coating is made from body-tolerated material.

4-7. **(Canceled).**

8. **(Previously Presented)** The stent-catheter arrangement according to claim 2, wherein said foil or said coating consists of biological material, of polymer material, of metallic material, ceramic material or elastomer material.

9. **(Canceled).**

10. **(Previously Presented)** The stent-catheter arrangement according to claim 1, wherein at least one of said one or more segments of said balloon being selectively stiffened are stiffened by coupling one or more rings to an outer surface of said balloon.

11-15. **(Canceled).**

16. **(Previously Presented)** The stent-catheter arrangement according to claim 1, further comprising integrated stiffening elements within said balloon to selectively stiffen one or more segments of said balloon.

17-20. **(Canceled).**

21. **(Previously Presented)** The stent-catheter arrangement according to claim 2, wherein said foil or said coating comprises poly-tetra-fluoro-ethylene.

22. **(Canceled).**

23. **(Previously Presented)** The stent-catheter arrangement according to claim 1, further comprising one or more stiffening elements to said balloon material to selectively stiffen said at least one of said one or more segments.

24. **(Previously Presented)** The stent-catheter arrangement according to claim 23, wherein said one or more stiffening elements are adhesively bonded to said balloon material.

25-29. **(Canceled).**

30. **(Currently Amended)** A stent-catheter arrangement for placing a stent into a vessel, the stent-catheter arrangement comprising:

a single, substantially uniformly cylindrical plastically deformable stent including a liquid impermeable cover; and

a catheter having [[an]]a single, expandable balloon coupled thereto, the single, expandable balloon having first and second substantially cylindrical end sections having an outer diameter and being expandable to engage an interior vessel wall and a substantially cylindrical middle section of reduced expandability in comparison with the first and second end sections, the middle section being disposed between the first and second end sections and having a middle diameter smaller than the outer diameter, tapered sections connecting the first and second end sections to the middle section and extending from the middle diameter to the outer diameter, the stent being disposed upon the single, expandable balloon and extending over the middle section, the tapered sections, and at least portions of the first and second end sections and being deformable from the substantially uniformly cylindrical configuration into a shape complementary to the shape of the single, expand[[ed]]able balloon following expansion of the single, expandable balloon, the stent extending over the middle section of reduced expandability and the tapered sections and terminating at portions of the first and the second end sections, the stent having a first substantially cylindrical end section, a first tapered section connected to and extending from the first substantially cylindrical end section, a substantially cylindrical middle section connected to and extending from the first tapered section, a second tapered section connected to and extending from the substantially cylindrical middle section, and a second substantially cylindrical end section connected to and extending from the second tapered section, the first and second tapered sections having predetermined lengths and angles and extending from the middle diameter to a first junction of the first substantially cylindrical end section and the first tapered section at the outer diameter and a second junction of the second substantially cylindrical end section and the second tapered portion at the outer diameter, respectively, the first substantially cylindrical end section extending along the vessel proximally from the first junction and the second substantially cylindrical end section extending along the vessel distally of the second junction.

31. **(Previously Presented)** The stent-catheter arrangement according to claim 30, wherein the plastically deformed stent includes first and second fixing portions for engaging the vessel wall, a middle portion having a diameter smaller than the diameters of the first and second fixing portions, and tapered portions coupling the first and second fixing portions to the middle portion.
32. **(Previously Presented)** The stent-catheter arrangement according to claim 30, in which the middle section of the balloon is selectively stiffened.
33. **(Previously Presented)** The stent-catheter arrangement according to claim 30, in which the middle section comprises one or more rings coupled to the outer surface of the balloon.
34. **(Previously Presented)** The stent-catheter arrangement according to claim 30, in which one or more stiffening elements are bonded to the surface of the balloon.
35. **(Previously Presented)** The stent-catheter arrangement according to claim 30, in which the liquid impermeable cover is a foil or a coating.
36. **(Previously Presented)** The stent-catheter arrangement according to claim 31, in which the diameter of the middle portion relative to the diameters of the first and second fixing portions are configured to achieve blood throttling in the vessel.
37. **(Previously Presented)** The stent-catheter arrangement according to claim 31, in which the tapered portions are configured to minimize blood turbulence in the vessel.
38. **(Previously Presented)** The stent-catheter arrangement according to claim 30, in which one or more segments of the balloon are selectively stiffened by integrating stiffening elements within the balloon during balloon production.